



#### ABSTRACT

The contemporary era is one of both accelerated economic globalization and rising inequality. There is an increasing awareness among both academic scholars and development professionals that globalization puts certain populations at risk. However, there has been inadequate theoretical analysis and a lack of up to date empirical studies that explain just how contemporary globalization affects inequality and the well being of individuals. This study explores the conditions under which TNC penetration and other globalization processes influence change in domestic income distribution. Its aim is to investigate whether theoretical models that have proven successful in explaining differences in income inequality cross-sectionally also allow for an understanding of the dynam-

ics of income distribution during the 1980s and early 1990s, an era characterized by a dramatic acceleration of globalization. We present an analysis of change in national income distribution using linear regression models with a panel design. This study suggests that dependence on foreign investment as a development strategy, especially compared to domestic and human capital investment, may be misguided for nations concerned with equality. Net of other factors, foreign investment dependence benefits the elite segments of the income-earning population over the poorer eighty percent. Our analysis provides evidence of a shift in capital/labor relations brought about by globalization that has significantly contributed to the rise in income inequality seen throughout the world.

## THE RESILIENCE OF DEPENDENCY EFFECTS IN EXPLAINING INCOME INEQUALITY IN THE GLOBAL ECONOMY: A CROSS-NATIONAL ANALYSIS, 1975-1995

Linda Beer  
Terry Boswell

### INTRODUCTION

The contemporary era is one of both accelerated economic globalization and rising inequality. International markets for goods, services, and capital have become increasingly integrated and since the 1980s this trend has shown a sharply upward curve (Rodrick 1997; Brady and Wallace 2000). Economic inequality has increased during this time period as well, whether measured between individuals, between nations, or within nations (Berry et al. 1983; Ram 1992; Korezeniowicz and Moran 1997). Milanovic (1999) estimates that the world Gini index for the richest to the poorest income groups increased *one percent per year* between 1988 and 1993, (from .63 to .66), while the World Development Report finds that GDP per capita in the richest 20 countries has grown to 37 times that of the poorest 20 nations, a gap that has doubled in the past 40 years (2000/01).

There is an increasing awareness among both academic scholars and development professionals that globalization puts certain populations at risk (Rodrick 1997; Birdsall 1999; UNCTAD 2000). This contrasts with the "Washington Consensus" among global elites that emphasized trade and investment liberalization is the panacea for development problems in the 1980s and early 1990s. The key turning point was the impoverishment left behind by the East Asian cur-

Linda Beer  
Department of Sociology  
Emory University  
1555 Pierce Dr.  
Atlanta, GA 30322  
[lbeer@emory.edu](mailto:lbeer@emory.edu)

Terry Boswell  
Department of Sociology  
Emory University  
1555 Pierce Dr.  
Atlanta, GA 30322  
[tbos@emory.edu](mailto:tbos@emory.edu)

<http://www.emory.edu/SOC/> (case sensitive)

JOURNAL OF WORLD-SYSTEMS RESEARCH, VIII, 1, WINTER 2002, 30-59  
Special Issue on Global Inequality - Part I  
<http://jwsr.ucr.edu>  
ISSN 1076-156X  
© 2002 Linda Beer and Terry Boswell

rency crisis of 1997 and subsequent meltdowns from Russia to Brazil, which produced earnest calls, often by the same elites, to take heed of the ways in which globalization has had unequal effects among the world's population, both within and between nations. And since the agenda-setting success of the "Battle of Seattle," globalization has become the unifier of diverse grass-root social movements in a string of large-scale protests when the WTO, IMF, or other global policy makers try to meet. Inequality is back on the global agenda, according to the World Bank's *World Development Report* (2000/01). However, there has been inadequate theoretical analysis and a lack of up to date empirical studies that explain just how contemporary globalization affects inequality and the well being of individuals (Paus and Robinson 1997).

To examine the effects of globalization on inequality, we start with world-system theory, which emphasizes the developmental consequences of global relations between unequally powerful nations, in particular, relations of dependency. Since the 1970s, much of this work has been concerned with the effects of accumulated investment from transnational corporations (TNCs) in the developing world, or periphery.<sup>1</sup> Specifically, studies of 'capital dependency' or TNC 'penetration' contend that disproportionate control over host economies by transnational corporations increases inequality by altering the development patterns of these nations. Although the vast majority of FDI is located within developed nations, the impact of FDI on a developing nation's economy is much more significant (WIR 2000). Therefore, world-system scholars focus on accumulated stocks of foreign investment as a share of the host nations GDP.

This focus is in sharp contrast with most globalization studies. While globalization has multiple economic, political, and cultural facets, when studying inequality most have focused on the effects of international trade, neglecting the significance of foreign ownership (Rodrick 1997; Ferreira and Litchfield 1998; Lachler 1998; WDR 2000/01). Similarly, with some important exceptions (i.e. Tsai 1995; Dixon and Boswell 1996), most recent cross-national studies of income inequality have moved away from examining global forces like foreign direct investment (FDI) focusing instead, on economic and socio-cultural dualism (Williamson 1991; Nielsen and Alderson 1995) or technoecological heritage (Lenski and Nolan 1985; Crenshaw and Ameen 1994). This is surprising for two reasons. First, dependency arguments concerning the impact of FDI on

---

<sup>1</sup> See, for instance, Chase-Dunn 1975; Bornschier 1981; Rubinson 1976; Bornschier and Ballmer-Cao 1979; Dolan and Tomlin 1980; Evans and Timberlake 1980; Sullivan 1983; Bornschier and Chase-Dunn 1985; Dixon and Boswell 1996; Beer 1999.

inequality have received relatively robust empirical support, warranting further examination.<sup>2</sup> Second, foreign direct investment has dramatically increased in importance over the past two decades, and is currently the primary source of resource flows to developing nations (Froot 1993; Tsai 1995). In 1988, FDI surpassed all other forms of lending as a source of foreign capital to developing nations (WDR 1991). In 1982, the total value of global inward FDI stock stood at almost 6 billion (US\$), by 1990 that figure had reached 1.7 trillion (US\$), and by 1999 it had reached 4.7 trillion (WIR 2000). The ratio of world FDI stock to world GDP increased from 5% in 1980 to 16% in 2000 (WIR 2000). Indeed, LDCs are encouraged to attract foreign investment as the primary route to economic growth and well being in the contemporary world-economy. Foreign investment is promoted by development agencies such as the World Bank and the International Monetary Fund as an efficient way to add to existing domestic pools of capital, technology and entrepreneurial talent (McMichael 1996; Rothgeb 1996; WIR 1991). Implicit in the logic of investment liberalization is the idea that the free flow of unregulated capital is the best means to national development (Ranney 1998). It has only been recently that traditional development agencies have begun to realize that FDI may disadvantage certain groups of individuals and that it is incumbent upon policymakers to safeguard vulnerable populations (UNCTAD 2000).

This study is an attempt to explore the conditions under which TNC penetration and other global factors influence change in domestic income distribution. Its aim is to investigate whether theoretical models that have proven successful in explaining differences in income inequality cross-sectionally also allow for an understanding of the dynamics of income distribution during the 1980s and early 1990s, an era characterized by a dramatic acceleration of globalization. Due to a prior lack of high quality time-series income inequality data, most cross-national studies of income distribution have employed regression models with a cross-sectional design. It is clear that the lack of time-series and longitudinal analyses covering many countries is a significant gap in the literature concerning cross-national income inequality. Moreover, examining changes in inequality over the short-term has both theoretical and empirical benefits, allowing for an analysis of the impact of contemporary globalization on inequality and for an evaluation of the sometimes-contradictory findings of prior research.

---

<sup>2</sup> Some seem to conclude that the insignificance of core/periphery dummy variables invalidates any world-system approach, even though such indicators are the crudest possible measures (i.e. Muller 1988).

This paper presents an analysis of change in national income distribution using linear regression models with a panel design. The data set contains inequality data for 65 nations at two points in time, circa 1980 and 1995. Before presenting our empirical models, we provide a summary of the literature and a discussion of our data and methods.

### THEORETICAL PERSPECTIVES ON CROSS-NATIONAL INCOME INEQUALITY

There are three main world-system arguments concerning the global sources of domestic income inequality, which follow something of a rough temporal pattern. The first focuses on inequalities arising from the concentration of land ownership that are a legacy of colonialism, and later through corporate agriculture, that generates severe income inequality (Furtado 1970; Muller and Seligson 1987; Boswell and Dixon 1990). Many cross-national studies have found a positive association between land inequality and inequitable distribution of income (Simpson 1993; Crenshaw 1993; Crenshaw and Ameen 1994). In the examination of the relationship between growth and inequality, some researchers have found that land redistribution prior to the onset of economic expansion is a crucial intervening variable (Bowman 1997; Deininger and Squire 1997).

The second emphasizes the export structure of developing nations. Trade between industrial and industrializing countries creates dependent patterns of unequal exchange, leading to high levels of income inequality within the developing world (Baran 1957; Frank 1967; Galtung 1971). Export-oriented production for the world market creates sector dualism in which the primarily foreign-owned export segment of the economy monopolizes internal capital and repatriates profits, stagnating the domestic sector. The empirical evidence indicates that large export sectors are positively related to income inequality (Stack 1980; Prechel 1985). The considerably more capital-intensive nature of export production results in higher returns to capitalists at one end and the underemployment of the indigenous labor force at the other. Moreover, wages are depressed by limited labor force mobility between sectors due to lack of skill transferability, low education levels, and various social and legal barriers (Amin 1976; Prechel 1985).

Prechel (1985) argues that the productive capacities and structure of the export and traditional economic sectors of developing nations are linked, not simply temporarily disarticulated. The growth of the first depends on the stagnation of the latter. Furthermore, creation of a high-wage high-profit oligopolistic capitalist sector not only creates a minority of high-income employees; it further increases inequality by encouraging urban migration and increased competition for unskilled jobs (Evans and Timberlake 1980). Competition in crowded urban areas reduces wages by decreasing the bargaining power of labor. These ten-

dencies are exacerbated by the development strategies most developing nations pursue. Prechel discusses the implications of these strategies for increasing income inequality, arguing that export-oriented production is usually foreign-owned or financed. This leaves these economies vulnerable to fluctuations in the world market, which along with the factors already discussed, contributes to maintenance of high levels of income inequality. The subordinate position of peripheral governments vis-a-vis core capital and prominent transnational actors such as the IMF, decrease their ability to implement autonomous social and economic policies (McMichael 1996).

Other discussions of trade dependency focus on the character of a nation's participation in the global trading system. Commodity concentration refers to the degree to which a nation's export role is limited to the production of only a few commodities. In comparison, nations with a more diversified array of exports have more options in responding to fluctuations in the world economy, for example being able to better weather downturns in the global commodity market. Commodity concentration has been found to have negative effects on physical quality of life (Ragin and Bradshaw 1992).

While size of the export sector has been found to be associated with inequality, other dependency measures such as commodity concentration and debt service have not been found to be significantly related to income inequality (Weede and Tiefenbach 1981; Prechel 1985; Chan 1989). However, dependency scholars stress the dynamic nature of global capitalism, and how the changing character of capitalist exchange on a global scale is coupled with alterations in the nature of the relations of dependency among the participants. Many of these researchers argue that, for the past twenty to thirty years, cross-national capital transfers are more indicative of dependency than are trade-based measures (Prechel 1985; Chan 1989).

The third wave of the literature, which is our main emphasis, focuses on foreign investment as the primary means through which the modern capitalist world-system creates and maintains intra- and international socioeconomic inequities. Numerous empirical studies have confirmed a significant association between foreign corporate penetration and inequality (Evans and Timberlake 1980; Kohli et al. 1984; Bornschieer and Chase-Dunn 1985; Chan 1989; London and Robinson 1989; Crenshaw and Ameen 1994; Dixon and Boswell 1996; Beer 1999; Alderson and Nielsen 1999). Others have found foreign penetration effects only in certain geographical regions (Rothgeb 1989; Tsai 1995). Even those studies that fail to confirm this relationship generally report their conclusions with reservation and do not dismiss foreign corporate penetration as a potentially important determinant of income inequality (Weede and Tiefenbach 1981; Crenshaw 1992).

Three main mechanisms are hypothesized to link capital dependency and social inequality (Crenshaw and Ameen 1994). First, foreign investment in developing countries generates large sectoral disparities. The sector dualism in this case is between the foreign and domestic sectors. The former includes a disproportionate share of the export sector in developing countries, but is not limited to it. Compared to the domestic sector, higher capital intensity and lower utilization of indigenous labor polarizes income distributions.

Second, transnational corporations operating in developing nations accrue a disproportionate share of local sources of credit and repatriate a portion of profits rather than reinvesting them in the local economy. Most importantly, compared to domestic capital, they do not facilitate near as many links to local businesses and may even displace small and medium business suppliers, professionals, and retailers who fuel the entrepreneurial and professional middle class. The lack of linkages between sectors is the prime difference between FDI in the periphery and in the core, where linkages are common and foreign investment has a large multiplier effect on local business.

Finally, the governments of these nations, motivated by the necessity of attracting and maintaining highly mobile foreign investment, implement policies and strategies that decrease the bargaining power of labor and inhibit vertical mobility by the lower classes, while enhancing the mobility and training of the managerial and TNC technical elite. These include tax concessions, guarantees of profit repatriation, and labor laws unfavorable to workers (London and Robinson 1989; O'Hearn 1989). Engineers or MBAs with degrees from the US or EU expect pay and living conditions similar to their core peers, but one major reason a TNC locates in the periphery is for low cost labor. While globalization is designed to ever increase the mobility of capitalists to seek higher returns across borders, workers face decidedly nationalist laws that criminalize their behavior.

More recent work along this line emphasizes the decreased autonomy of peripheral national governments to the workings of the global economy and emerging transnational actors. Scholars argue that nations that are highly dependent on foreign capital and encumbered by enormous debt are subordinated to TNCs and multilateral development agencies such as the IMF and the World Bank (McMichael 1996). These global actors influence economic and social policies both directly (by tying loan restructuring to the implementation of structural adjustment policies) and indirectly (by creating a competitive environment among developing nations for foreign investment that depresses wages and encourages lowered labor and environmental standards). DeMartino (1998) asserts that the increased mobility of capital weakens the ability of developing nations to tax capital and provide social insurance for workers. Liberalized

investment rules undermine national policies that encourage employment and wage enhancement such as targeted job training, priority hiring and local purchasing requirements (Ranney 1998).

### Alternative Theories of Cross-National Income Inequality

The "classic" modernization argument is based on the work of Simon Kuznets (1955, 1963, 1976) who found a curvilinear association between income inequality and economic growth, and was among the first to develop a theoretical argument to explain this finding. Modernization theorists argue that wealth concentrates in the hands of a few entrepreneurs in the early stages of industrialization, as this is the most efficient use of scarce capital. Increasing the rate of capital investment, both foreign and domestic, depends on the development of modern economic segments of the economy. Inequality eventually decreases, however, as modern values and technology diffuses through out the economy.

Recent research seeks to explain inequality by reference to dualism between modern (industrial) and traditional (agricultural) sectors, which harkens back to modernization theory (Paukert 1973; Cheney and Syrquin 1975; Ahluwalia 1976; Kuznets 1976). It is not development per se, but dualism and diffusion processes that are the keys to explaining income inequality (Nielsen and Alderson 1995).<sup>3</sup> Dualism is also found in dependency arguments (Prechel 1985), differing in the type of sectors and in the predictions of readily increasing sector integration by diffusion alone due to structural constraints that prevent the lessening of inequality. Nielsen (1994) argues that two transitional processes explain part of the effect of development on income distribution: sector dualism and generalized sociocultural dualism. Sector dualism is primarily economic and is associated with labor force shifts from the low productivity low-wage traditional sector to the high productivity high-wage modern sector. He argues that the movement of labor from one sector to another increases income inequality as an automatic numerical consequence, regardless of the level of income inequality within the various sectors. This notion of sector dualism is drawn from the work of Kuznets (1955) and Lecaillon et al. (1984) and is both the process by which sectoral labor force shifts produce income inequality and the amount of inequality due to differences in income between traditional and modern economic sectors of develop-

---

<sup>3</sup> Nielsen and Alderson (1999) are hard to classify. Their rhetoric is quite critical of world-system theory, while their actual empirical findings confirm penetration effects previously found in similar models.

ing nations. That is, it is a function of both the differences in average incomes between sectors as well as the relative size of the sectors. Urbanization and internal migration are related to these processes, and indicators such as percent of labor force in agriculture have been found to be associated with income inequality at lower levels of development (Crenshaw 1992, 1993; Simpson 1993; Nielsen and Alderson 1997). Direct measures of sector dualism, the Gini coefficients for the difference between agricultural shares of the labor force and its share of the total income of society, have also been found to be positively associated with inequality (Nielsen 1994; Nielsen and Alderson 1995).

Generalized sociocultural dualism is associated with the demographic transition, which is the increased growth rate of newly developing populations (due to reductions in the death rate through the diffusion of medical technology) that is not yet offset by a reduction in the birth rate. As a consequence, societies experiencing the transition have a high natural rate of population growth that increases income inequality through its impact on labor surplus, decreasing the relative bargaining power of low-skilled workers. Nielsen (1994) argues that any variable associated with development that generates heterogeneity due to partial or selective diffusion will contribute to inequality. Generalized sociocultural dualism entails all of the dimensions of industrialism that spread unevenly and therefore affect the distribution of income, including the diffusion of education and political democracy, which have been traditionally explained by other scholars from a different perspective.

Another often-debated topic among development scholars is access to education. Some theorists argue that education allows for the attainment of credentials and skills necessary for employment in the modern industrial sectors of the economy (Simpson 1990; Crenshaw 1992). This argument is derived from the modernization perspective in that the relationship is dependent on national economic growth and increasing internal sectoral complexity. Educational institutions in the early stages of economic growth are assumed to be concentrated in urban areas and primarily accessed by elites. As industrialization continues, however, mandatory and open educational policies are instituted nationally, allowing for educational attainment and hence increased employment opportunities for the rest of the population. This occurs through a process of diffusion of institutional forms and practices from urban to rural areas and is also a result of the growth of effective popular demand generated by improving economic conditions.

Some researchers have confirmed this inverted-U relationship between educational enrollments and income inequality (Simpson 1990; Crenshaw 1992). Others have found negative effects on income inequality (Weede 1993; Nielsen 1994). Still others agree that the spread of education is curvilinear related to

income inequality, but assert that the relationship is U-shaped (Crenshaw and Ameen 1994). These scholars argue that along with the spread of educational credentials associated with development come increased competition for those positions requiring credentials, therefore reducing wage differentials between the educated and uneducated and decreasing income inequality (Nielsen and Alderson 1997). At a certain point of institutionalization, however, a new set of post-industrial social inequalities is established and the relationship becomes increasingly positive (Crenshaw and Ameen 1994).<sup>4</sup>

We will consider a variety of other specific arguments below when explaining the independent variables. But for now, let us turn to the variables and methods.

## DATA AND METHODS

### The Measurement of Income Inequality

Many researchers have recognized problems with the data quality and comparability of cross-national measures of income inequality (e.g. Ahluwalia 1993[1974]; Muller 1993[1984]; Hoover 1989). Fortunately, data collection procedures have improved substantially in recent years and much work has been done in assessing their comparability. Our primary source for the inequality data is a World Bank data set constructed by Deininger and Squire (hereafter referred to as "DS") (1996). In order to increase our sample size as much as possible we supplement the DS data with two other high quality sources: the ILO's "Statistics on Poverty and Income Distribution" (ILO) (1996) and the World Development Indicators 1999 (WDI) (1999). All three data sets were compiled from various sources, but with careful attention to issues of quality and comparability.

The DS data set has proven extremely useful in preliminary analyses (Deininger and Squire 1996, 1997). As many of the theoretical explanations of inequality contain a temporal element, lack of high quality time-series data has hampered empirical testing of these hypotheses. Indeed, Deininger and Squire argue that the use of inferior data calls into question the results of many studies, especially those examining changes in inequality over time (1996: 570, 573). They

---

<sup>4</sup> Even when empirical findings do not differ, often-divergent theoretical explanations are offered. For example, Crenshaw (1992, 1993, 1994) and Simpson (1990, 1993) engage in a debate as to whether the effects of such factors as the diffusion of education and the spread of political democracy are primarily political or economic phenomena. This is in large part a theoretical, rather the empirical, debate.

impose stringent quality standards in the construction of their high-quality data set. Each observation must meet three requirements: 1) household or individual as the unit of observation, 2) comprehensive coverage of the population, and 3) comprehensive coverage of income or expenditure. The researchers argue that their data set improves upon those used previously in three ways: it contains a larger number of high caliber observations, includes a greater number of nations and provides a more reliable basis for time-series analysis.

In terms of the issues discussed by Deininger and Squire that may affect comparison of measures of inequality, we take the following steps. Where possible we attempt to use observations where the income recipient unit is the household rather than the individual, as household-based measures yield lower estimates of inequality. Similarly, we selected measures where income is reported net of taxes where possible, as these tend to generate more equally distributed estimates of fractile income shares. As previously mentioned, we supplement the DS data with ILO and WDI data sets. The data contained in each frequently overlaps and is quite similar. In terms of preference, we selected measures based on the income earning population first, then on the economically active population, and then on tax records. Based on the findings of previous studies, however, we do not expect any systematic bias based on differences in measurement in these areas (Deininger and Squire 1996; Alderson and Nielsen 1999).<sup>5</sup>

Using this methodology we constructed a panel data set for the years 1980-1995. The population consists of all nations with a population of over one million for which data was available. The result is a data set of 65 nations for which we have inequality data at two points in time. The measurement year of the earlier estimate ranges from 1968 to 1986 (mean of 1979), and the range for the later estimate is from 1988 to 1995 (mean of 1991). The 65 cases average a 11.5 year lag between inequality measures, ranging from 3 years to 21 years.<sup>6</sup>

---

<sup>5</sup> The majority of indicators in our data set are based on income, but in the interest of expanding coverage we include 19 expenditure measures as well. To address the potential error involved, we follow the steps suggested by Deininger and Squire (1996). For the quintile data, we calculated the mean difference in income- and expenditure-based quintile shares and adjusted the expenditure-based data for quintiles where necessary in the following way: adding .0168 to the top quintile, subtracting .0008 from the upper middle, subtracting .0039 from the middle, subtracting .0009 from the lower middle, and finally subtracting .0115 from the bottom quintile (7 cases in the 1995 data and 12 cases in the 1985 data).

<sup>6</sup> Ivoire, where change in inequality is only measured over three years was made in the interest of retaining as many African nations in the data set as possible.

Because income data is frequently collected in quintile shares, the two most commonly used measures in comparative studies of income inequality are the Gini coefficient, which looks at the disparity between equal and actual distribution of income among quintile shares, and the concentration of income received by the top 20% of the population. The majority of cross-national studies find no difference between models based on top quintile income concentration and those based on the Gini (although the Gini coefficient has been extensively critiqued on methodological and theoretical fronts Chan 1989; Hoover 1989; Braun 1991; Muller 1993[1984]). It is, however, for theoretical reasons that researchers should opt to use income concentration or the Gini coefficient.

Muller (1993[1984]) argues that world-system theory points to the concentration of income at the upper end of the distribution as the crucial indicator of income inequality. As there is little variation in the bottom 20%, the difference between concentration in the top percentiles and the Gini score is due almost entirely to the distribution in the middle. As Deininger and Squire (1996) note, when examining changes in inequality the use of an aggregate measure such as the Gini coefficient obscures the character of shifts in income distribution because "...there is no unique mapping between the changes in the index and the underlying income distribution..." (p. 567). That is, the Gini coefficient for a particular nation may increase, but there is no way of discerning whether the rise in inequality is due to redistribution from the bottom quintile to the top or a result of a shift from the middle to the top. Also of theoretical importance is that the use of upper proportional shares of income indirectly measures asset inequality, another significant dimension of economic stratification (Boswell and Dixon 1993). Considering these theoretical concerns, in the analyses that follow we concentrate on examining change in top quintile income share.

#### The dynamics of income inequality, 1980-1995

The data suggest that, overall; inequality as measured by top quintile income share has increased within nations during the 1980s and early 1990s.<sup>7</sup> On average, the percent of national income accruing to the top twenty percent of the population rose by 2.4%. While this may seem rather small, it is important to consider that in real terms this amount is quite substantial, especially in nations where great numbers of people live in poverty. In El Salvador, for example, 2% of national incomes is equal to roughly US\$189,756,000.

---

<sup>7</sup> Top quintile income share for all nations at both points in time are included in the Appendix.

In addition, the data indicate that the long held assumption that inequality changes rather slowly over time does not hold for the more recent time period under study. Nearly 30% of the nations in our data set exhibit top quintile changes of +/-10%, and 60% show changes of +/-5%. Of these nations, the majority experienced worsening income inequality. For example, fourteen nations (22%) exhibited increases in top quintile income share of over 10%, and twenty-four nations (37%) had increases of over 5%. An interesting issue is whether the generally held assumption that income inequality is a relatively stable feature was based on flawed or incomparable data or, alternately, whether this was true for earlier periods but no longer holds in the era of increasing economic globalization.

The advanced industrial nations as a whole tend to have lower inequality than other countries, especially the Scandinavian social democratic nations. There was not a tremendous amount of change in inequality among developed countries, with the exception of the "Anglo-American" liberal market nations: Australia (+5%), the United States (+6%), and the United Kingdom (+8%). What is striking is that the latter all began the decade with high inequality relative to other advanced industrial nations, defying any ceiling effect on inequality provided by political institutions or global convergence expected by world cultural theorists. Stallings (1995) suggests that all share similarities in their "Anglo-American" variant of capitalism and many studies have documented rising inequality in these nations in recent decades (Bluestone and Harrison 1988; Braun 1991; Nielsen and Alderson 1995, 1997).

### Measurement of the Independent Variables

The independent variables we include in our regression models are representative of the theoretical perspectives that address cross-national income inequality discussed in the literature review. This will allow the perspectives to compete freely with one another and allow for a fuller specification of the empirical models. Where data is not available for the target year for a substantial number of cases, we use averages over a specified time period in order to retain as many nations as possible in the models.

#### *World System Indicators:*

*TNC Penetration:* Capital dependence is characterized by significant amounts of foreign control over the national economy, represented by the accumulation of stock owned by transnational corporations. The most common operationalization of investment dependence is transnational corporate penetration (PEN), the ratio between inward foreign direct investment (FDI) stock and GDP. This measure has been found to be significantly associated with high levels of inequal-

ity in developing nations. The WIR provides measures of inward FDI as a percentage of gross domestic product for multiple years (Source: World Investment Report 1998).<sup>8</sup>

On average, TNC penetration rose over the decade; nations averaged a 7% pen score in 1980, whereas in 1990 that average had increased to 11%. The majority of nations in the data set showed dramatic increases in foreign accumulation of stock relative to the size of their economies, the average percent increase from 1980 to 1990 was 184%. Of the 73 nations for which we have PEN data for both 1980 and 1990, all but 13 (18%) increased their PEN scores, many quite substantially. Over half of the sample (60.3%) increased PEN by over 50%. The majority of nations actually increased their dependence on foreign ownership by relatively large amounts, 42.5% increasing by more than 100% and 20.6% increasing by more than 200%.

*Exploitation.* Following Boswell and Dixon (1993), class exploitation is measured as wages and salaries as a percent of value added in manufacturing  $[(1 - WSPVA)/WSPVA]$ . Manufacturing is the only sector for which data is available, but is presumably correlated to other sectors. This measure captures the cross-national disparity in bargaining power between capital and labor in determining the returns to increases in productivity due to factors such as differences in capital mobility, labor laws, social welfare, and so on. In general, the Scandinavian social democratic countries have the lowest rates and the highest are found in Latin America and among heavily indebted countries, including those in Eastern Europe (even while nominally 'communist') (Boswell and Dixon 1993). Although rarely used in cross-national studies of inequality, it has been found to be positively associated with income concentration (Boswell and Dixon 1993).<sup>9</sup> (Source: World Data 1995)

*Sectoral disarticulation.* This measure is meant to capture the underabsorption of labor in the economic sectors of the economy; it reflects the disproportionality of productivity across sectors. Some have argued that disarticulation may be one of the mechanisms through which TNC penetration affects income distribution (Breedlove and Armour 1997). This measure is similar to the sector dualism measure, but that measure only captures dualism in agriculture. It is constructed by taking the sum of the differences between a sectors share of the

<sup>8</sup> See Evans and Timberlake 1980; Kohli 1984; Bornschieer and Chase-Dunn 1985; Chan 1989; London and Robinson 1989; Crenshaw and Ameen 1994; Beer 1999.

<sup>9</sup> -1986 for Nepal.

labor force and that sectors contribution to GDP, across all three major sectors of the economy: service, industry and agriculture. (Source: World Development Indicators 1998)

*Change in urban population.* This measure is meant to capture “overurbanization,” the rapid migration of rural workers to the cities. This relocation to urban areas is assumed to be a result of the mechanization and transnationalization of the rural sector in developing nations (Prechel 1985). Overurbanization contributes to inequality by increasing the number of unemployed workers and thereby decreasing wages. We operationalize this measure as change in the percent of the population living in urban areas over a five year time period. We use this instead of a measure of percent urban population in order to capture the effects of a rapid increase in urban dwellers, rather than the slower trend of rising urbanization seen throughout the world. (Source: World Development Indicators 1998)

*Change in service labor force.* Evans and Timberlake (1980) argue that inequality is greater within the tertiary sector, even though average incomes are higher in the tertiary as opposed to the agricultural sector. This is because incomes are more polarized in the service sector, which contains both professionals and low-skilled workers. Growth in the tertiary sector may also contribute to inequality through its creation of a readily available reserve army of labor, which depresses wages in other sectors through its weakening of labor’s bargaining power. Some have asserted that foreign investment increases the tertiary sector and that change in tertiary sector has a positive effect on income inequality (Evans and Timberlake 1980). (Source: World Development Indicators 1998)

#### *Alternative Indicators:*

*Level of Development.* We use real gross domestic product per capita as a measure of level of economic development. Real dollars are those adjusted for differences in domestic prices using purchasing power parities. (Source: Penn World Tables 5.6; World Development Indicators 1999)

*Education.* We operationalize this variable as secondary school enrollments and its inclusion in the models is meant to capture levels of domestic human capital. Nielsen and Alderson (1995) argue that high levels of secondary school enrollments indicate “skills deepening.” The nature of this relationship, however, has not been fully settled by the empirical evidence. Some have found education to be negatively related to inequality (Weede 1993; Nielsen 1994; Nielsen and Alderson 1995), others have found an inverted-U shaped pattern (Simpson 1990; Crenshaw 1992) and still others have found a U-shaped association (Crenshaw and Ameen 1994). (Source: World Development Indicators 1997)

*Modern Sector dualism.* As per Nielsen and Alderson (1995), this variable is operationalized as the absolute value of percent of the labor force in agriculture

minus agriculture as a percent of GDP, and is expected to have a positive association with income inequality. (Source: World Development Indicators 1998)

*Percent of labor force in agriculture.* While some have found a large agricultural sector to be related to high inequality (Simpson 1993; Crenshaw 1993, 1992), they have not included a sector dualism measure. Nielsen and Alderson (1995) argue that, when controlling for intersectoral differences in inequality, a large agricultural sector (having a relatively more equal distribution of income) should exhibit a negative association with the inequality indicators. (Source: World Development Indicators 1998)

*Natural rate of population increase.* This measure is operationalized as the crude birth rate minus the crude death rate and is intended to capture the effect of the demographic transition and generalized sociocultural dualism on income distribution (Nielsen and Alderson 1995). It is expected to have a positive effect on inequality (Ahluwalia 1976; Bollen and Jackman 1985; Simpson 1990; Nielsen 1994). (Source: World Development Indicators 1999)

*Agricultural population density weighted by the percentage of the labor force in agriculture.* This variable is constructed as per Crenshaw and Ameen (1994) by first constructing an agricultural density measure (the ratio of the total agricultural labor force divided by arable land), and then multiplying this density measure by the labor force in agriculture and taking its square root. This variable has generally been found to have a negative effect on income inequality (Chan 1989; Crenshaw 1992, 1993; Crenshaw and Ameen 1994), but some have reported insignificant relationships with some differences in measurement (Simpson 1990; Nielsen 1994). (Source: World Development Indicators 1998)

#### AN ANALYSIS OF CHANGE IN TOP QUINTILE INCOME SHARE, 1980–1995

Descriptive statistics and a correlation matrix of the variables used in the panel models are presented in Tables 1 and 2. Several variables were logged to correct for skewness: TNC penetration, real GDP per capita, exploitation, agricultural density, and average exports as a percent of GDP. As mentioned earlier, income inequality increased in the majority of nations in our sample. On average, top quintile income share rose in the 65 nations for which we have data at two points in time, from 45.51% to 46.80%. Also of interest is the increase in average TNC penetration over the decade; nations averaged a 7% PEN score in 1980, whereas in 1990 that average had increased to 11%. The majority of nations in the data set showed dramatic increases in foreign accumulation of stock relative to the size of their economies, the average percent increase from 1980 to 1990 was 184%. Of the 73 nations for which we have PEN data for both 1980 and 1990, all but 13 (18%) increased their PEN scores, many quite substantially. Over half of

**Table 1 – Panel Models Descriptive Statistics**

	N	Minimum	Maximum	Mean	S.D.
Top quintile income share (1980)	66	32.10	68.00	45.51	8.60
Top quintile income share (1995)	86	33.80	65.18	46.80	8.56
TNC penetration	74	0.00	0.53	0.07	0.08
Real GDP per capita	83	322.00	15295.00	4416.49	3990.37
Average disarticulation	68	-25.96	8.06	-2.61	4.14
Average sector dualism	70	-1.47	61.31	22.86	17.49
Average agricultural labor force	84	1.20	93.75	42.11	28.57
Natural rate of population increase	84	-1.10	37.80	19.51	10.73
Average secondary school enrollment	78	3.00	105.00	50.35	30.76
Percent change in urban population	85	-2.18	34.12	6.79	6.86
Average exploitation in manufacturing	71	0.46	7.10	2.30	1.43
Percent change in female labor force	83	-12.42	57.79	17.48	12.53

*Sources For All Tables:*

*Top quintile income share, circa 1980; Deininger and Squire 1996, ILO 1996, WIR 1999.*

*Top quintile income share, circa 1995; Deininger and Squire 1996, ILO 1996, WIR 1999.*

*TNC penetration, 1980; WIR 1998.*

*Real GDP per capita, 1980; Penn World Tables 5.6.*

*Average disarticulation, 1980–1985; WDI 1998.*

*Average sector dualism, 1980–1985; WDI 1998.*

*Average agricultural labor force, 1980–1985; WDI 1998.*

*Natural rate of population increase, 1980; WDI 1999.*

*Average secondary school enrollments, 1980–1985; WDI 1997.*

*Percent change in urban population, 1980–1985; WDI 1998.*

*Average exploitation in manufacturing, 1980–1985; World Data 1995.*

*Percent change in female labor force, 1980–1990; Wistat 1994.*

the sample (60.3%) increased PEN by over 50%. The majority of nations actually increased their dependence on foreign ownership by relatively large amounts, 42.5% increasing by more than 100% and 20.6% increasing by more than 200%. The data indicate that the acceleration of global investment is indeed one of the characteristic features of the contemporary era.

**Regression Analysis of Change in Top Quintile Income Share, 1980–1995**

Table Three, equation A, replicates Beer's (2001) model predicting top quintile income share for a cross-section of nations circa 1995.<sup>10</sup> In this equa-

<sup>10</sup>This model is drawn from work presented in Beer (2001), an unpublished dissertation manuscript. In this context it is used to illustrate the differences between lagged cross-sectional and panel models of top quintile income share.

tion, income inequality has a positive relationship with economic development, TNC penetration, exploitation, disarticulation, change in urban population, and change in the percent of the labor force in services. Top quintile income share is negatively associated with secondary school enrollments, the exploitation/change in urbanization interaction term, and agricultural density. However, equation B indicates that this model does not work as well when we add the lagged dependent variable to the model. That is, the set of variables included in equation A are useful in specifying *level* of income inequality cross-nationally, but are inadequate if what we wish to understand is *change* in top quintile income share over the 1980s and early 1990s. Although development, investment dependence, and exploitation are associated with increasing inequality, and education is related to smaller gains in top quintile income share, this set of variables is a poor fit when specifying change in income distribution.

A replication of Nielsen and Alderson's "dualism" model is presented in equation C. These theorists take issue with modernization arguments, asserting that the cross-national variations in income inequality are not driven by simple increases in GDP per capita, but are instead accounted for by a set of variables that capture the changes in social and economic structure that accompany the movement of nations from agricultural to industrial societies. The dualism model has proven useful for cross-sectional analyses of income inequality (Nielsen 1994; Nielsen and Alderson 1995; Alderson and Nielsen 1999). However, as was the case in equation B, when the lagged dependent variable is included in equation D, the model fails to adequately predict top quintile income share change.<sup>11</sup> Clearly, the equations presented in Table 3 indicate that models that work well in specifying income distribution for a cross-section of nations do not adequately predict change in inequality. As many of the theories that attempt to account for cross-national variation in income distribution contain a temporal element, it is incumbent upon scholars of cross-national income distribution to test these propositions with the improved data now available.

**DISCUSSION AND CONCLUSION**

As noted in the introduction, inequality is back on the agenda for many development agencies. This is in part due to the failure of the past few decades to significantly reduce global poverty in an era of increasing liberalization despite robust economic growth (Milanovic 1999). The World Bank's World

<sup>11</sup>The principal components factor representing the four dualism variables also did not significantly predict change in top quintile income share.

Table 2 – Correlation Matrix for Panel Models

	top 20 (1980)	top 20 (1995)	lpen (1980)	lrgdppc (1980)	av disart (80–85)	av sec dual (80–85)	av ag lf (80–85)	pop inc (1980)	av sec ed (80–85)	% ch u pop (80–85)	av exploit (80–85)	% ch svc (80–90)	lag density (1980)
top 20 (1980)	1.000 (66)	.847** (65)	.091 (58)	-.391** (66)	.162 (53)	.568** (55)	.434** (63)	.700** (63)	-.571** (61)	.334** (64)	.386** (60)	.212 (61)	.170 (60)
top 20 (1995)		1.000 (86)	.231* (72)	-.329** (81)	.171 (66)	.384** (68)	.294** (82)	.603** (82)	-.563** (76)	.229* (83)	.355** (69)	.150 (81)	.082 (79)
lpen (1980)			1.000 (74)	.282** (73)	-.119 (61)	-.250* (62)	-.347** (71)	-.064 (71)	.194 (68)	-.340** (72)	-.192 (65)	-.112 (71)	-.377** (70)
lrgdppc (1980)				1.000 (83)	-.395** (67)	-.817** (69)	-.939** (80)	-.750** (80)	.851** (76)	-.700** (81)	-.474** (71)	-.194* (78)	-.685** (77)
av disart (80–85)					1.000 (68)	.380** (67)	.412** (68)	.331** (67)	-.394** (65)	.238* (68)	.056 (62)	-.120 (68)	.339** (67)
av sec dual (80–85)						1.000 (70)	.902** (70)	.678** (69)	-.791** (67)	.614** (70)	.308** (63)	.224* (67)	.633** (69)
av ag lf (80–85)							1.000 (84)	.705** (83)	-.862** (77)	.696** (84)	.422** (69)	.197* (81)	.716** (80)
pop inc (1980)								1.000 (84)	-.807** (77)	.481** (84)	.453** (69)	.135 (81)	.440** (79)
av sec ed (80–85)									1.000 (77)	-.620** (78)	-.490** (67)	-.228* (75)	-.566** (75)
% ch u pop (80–85)										1.000 (85)	.394** (70)	.239* (82)	.516** (80)
av exploit (80–85)											1.000 (71)	-.045 (68)	.450** (69)
% ch svc (80–90)												1.000 (83)	.064 (78)
lag density (1980)													1.000 (81)

\* significant at the .05 level (1-tailed), \*\* significant at the .01 level (1-tailed)

#### Key for Table 2:

top 20 (1980): top quintile income share, circa 1980; Deininger and Squire 1996, ILO 1996, WIR 1999.

top 20 (1995): top quintile income share, circa 1995; Deininger and Squire 1996, ILO 1996, WIR 1999.

TNC pen: TNC penetration, 1980; WIR 1998.

rgdppc: real GDP per capita, 1980; Penn World Tables 5.6.

av disart: average disarticulation, 1980–1985; WDI 1998.

av sec dual: average sector dualism, 1980–1985; WDI 1998.

pop inc: natural rate of population increase, 1980; WDI 1999.

av sec ed: average secondary school enrollments, 1980–1985; WDI 1997.

%ch urb pop: percent change in urban population, 1980–1985; WDI 1998.

av exploit: average exploitation in manufacturing, 1980–1985; World Data 1995.

%ch fem lf: percent change in female labor force, 1980–1990; Wistat 1994.

ag density: agricultural population density weighted by the percentage of the labor force in agriculture, 1980; WDI 1998.

Development Report notes that 2.8 billion of the world's 6 billion individuals live on less than \$2 per day (WDR 2000/01). Although the percent of individuals living in poverty has declined somewhat, the absolute number of poor people has increased (Chen and Ravallion 2000). Moreover, global income inequality has rapidly grown in the past few decades (Berry et al. 1983; Korzeniewicz and Moran 1997). Development agency scholars have traditionally stressed economic growth generated through integration with the world economy as the primary route to improving the lives of those in developing nations (see, for example, Dollar and Kray 2000). Now, however, there is an increasing emphasis on growth with equity, as many recent studies have found that the benefits of economic growth to the poor are highly dependent on the existing level of inequality within nations (WDR 2000/01; Weisbrot et al. 2000; Wodon 1999). Chen and Ravallion provide empirical evidence that indicates that inequality is a constraint on pro-poor growth (2000). The sense that equitable distribution of income within nations is an important precursor to achieving widespread and beneficial economic growth is becoming more widespread."

Recently, development scholars have begun to explore the ways in which globalization puts nations at risk of increasing income inequality (Birdsall 1999). Rodrick argues that the primary challenge for the world economy is "...ensuring that international economic integration does not contribute to domestic social disintegration." (1997:2). As noted, a gap in most of these recent studies is that they focus on the effects of international trade, neglecting the significance of foreign investment.<sup>12</sup>

Globalization heightens the vulnerability of certain groups, not only in developing nations but also in advanced market economies (UNCTAD 2000).

The analysis presented here illustrates the usefulness of panel models in understanding the dynamics of income distribution. As Kohli et al. (1985) points out, while cross-sectional analyses may reveal long-term structural tendencies, panel analyses are essential for uncovering causal forces affecting changes in income inequality. As the global economy increases in both rapidity and volume, these changes may have greater consequence. Many scholars have discussed the deindustrialization of core nations during the 1980s, generally focusing on specific examples of increasing capital mobility and its effects on core labor (Piore and Sabel 1984; Bluestone and Harrison 1988). It is only recently that scholars have begun to look at these phenomena in terms of globalization, at how the

<sup>12</sup> One important exception is Brady and Wallace, who found that FDI has a negative impact on the political and economic power of workers in U.S. states (2000).

**Table 3 – Comparison of Lagged Cross-Sectional and Panel Models Predicting Top Quintile Income Share**

	(a)	(b)	(c)	(d)
Constant	37.177** (18.308)	1.823 (19.249)	58.424*** (6.234)	25.236*** (7.323)
Top quintile income share (1980)		0.721*** (0.145)		0.804*** (0.121)
TNC penetration – lagged (1980)	1.658** (0.699)	0.984* (0.609)		
Average exploitation in manufacturing– lagged (80–85)	7.205*** (1.853)	4.542*** (1.736)		
Average disarticulation (80–85)	0.902*** (0.330)	0.321 (0.287)		
Percent change in urban population (80–85)	0.979*** (0.305)	0.213 (0.292)		
Average exploitation – lagged * Change in urban population	–0.729*** (0.234)	–0.359* (0.255)		
Percent change in female labor force (80–90)	0.141** (0.849)	0.013 (0.074)		
Agricultural density – lagged (1980)	0.105* (0.080)	–0.721 (0.909)		
Real GDP per capita – lagged (1980)	4.155** (1.995)	2.985* (1.800)		
Average secondary school enrollment (80–85)	–0.188*** (0.054)	–0.109** (0.909)	–0.196*** (0.060)	–0.164*** (0.055)
Average sector dualism (80–85)			0.257** (0.109)	0.014 (0.118)
Average agricultural labor force (80–85)			–0.292*** (0.078)	–0.129* (0.077)
Natural rate of population increase (1980)			0.295** (0.127)	–0.094 (0.141)
F	8.206***	13.643***	14.287***	27.012***
Adj. R <sup>2</sup>	.555	.738	.458	.718
N5	3	46	64	52

\* p < .10, \*\* p < .05, \*\*\* p < .01 – significance levels are one-tailed

global economy is changing the structure of inequality. There are many causes of income inequality and more research should be done that fully explores the contemporary dynamics of income distribution. The research presented here indicates a shift in capital/labor relations brought about by globalization that have significantly contributed to the rise in income inequality seen throughout the world. Our current ways of understanding cross-national inequality are inadequate by themselves in explaining this recent change. Several factors suggested by the world-system approach—TNC penetration and exploitation—appear to tap into this structural change.

In addition, some factors associated with alternative theories receive support. Although not curvilinear, development has a positive relationship with income inequality net of the other factors included in the model. While this does not fit a traditional modernization view of the world, it tells us a great deal about the kind of unfortunate world we live in today. Nielsen and Alderson (1997) have argued that the Kuznets “inverted-U” actually takes the form of a wave if the relatively recent increase in inequality among the wealthy nations is considered. The empirical evidence also supports the importance of education for decreasing inequality; the education variable consistently had a robust and highly significant negative association with change in top quintile income share. Nations with high levels of secondary school enrollments appear to experience fewer increases in income concentration, as human capital becomes more widely dispersed. Nielsen and Alderson argue that this variable indicates a “skills deepening,” where the accumulation of various productive skills generates income for greater proportions of the population by providing them with the expertise to fill more positions, thereby equalizing incomes. This suggests that nations with a desire to decrease income inequality within their borders would do well to invest in programs that increase secondary school enrollments. Expanding human capital, especially among women, is the surest way to increase labor’s share of the productivity gains.

What besides increasing education does our research imply will succeed for countries that seek to reduce inequality without sacrificing economic development? The world-systems approach suggests that reducing exploitation in manufacturing and elsewhere would increase their income share. However, this is tricky as capital reinvested from the capitalist’s share (as opposed to consumed or sent abroad) increases growth and development. As mentioned above, the most productive, although highly limited, route is to expand education and skill training; especially among women and other more easily exploited populations. Related productive steps include banning child labor and sweatshops, guaranteeing occupational and environmental safety, improving public health and welfare and so on, although the cost of these rises for poorer countries. Increasing

bargaining power through unionization and public policy would be the broadest and most direct route, but is the most fraught with risk from capital flight. Long term success under globalization will require international union organizing and changing the rules of global exchange in the WTO, IMF, and other institutions.

Finally, TNC penetration has an impact on income distribution beyond what one would expect based on prior levels of inequality and various domestic factors. Can a country reduce TNC penetration, which increases inequality, without reducing foreign investment, which increases growth? At first, this may seem impossible, as penetration is a factor of FDI. However, one of the main problems of FDI in developing countries is the lack of linkages to domestic businesses. Policies that expand linkages, including ones that make local capital more useful, would multiply domestic growth (and a local middle class) alongside FDI, keeping the degree of penetration in check. Even if penetration were to increase, the negative effects would be muted, especially as matched with the policies listed above.

Globalization does indeed appear to put nations at risk of increasing inequality (Birdsall 1999). Although some have dismissed the fears of those who have expressed apprehension regarding the effects of accelerated globalization on social welfare as “protectionist” or “inward-looking,” the study presented here supports the idea that undue reliance on foreign investment may in fact benefit elite segments of the population over others. The empirical evidence supports the view that globalization puts certain populations at risk (Rodrick 1997). Moreover, the results of the study indicate that this effect is not limited to only developing nations. The data suggest that those advanced industrial nations with relatively high and increasing levels of foreign investment, such as the United States and the United Kingdom also saw increased inequality over the 1980s and early 1990s. That these very nations, along with the majority of global financial institutions, vigorously espouse the continuing trend toward liberalization of foreign investment policies and assert that fears of globalization are unwarranted is somewhat ironic. Global investment may certainly be likened to a rising tide, and it may be a tide that lifts all boats, but the empirical evidence presented here indicates that it surely lifts some boats higher than others. The question of whether indeed foreign investment improves the incomes for all citizens is an empirical question. This study suggests that dependence on foreign investment as a development strategy, especially compared to domestic and human capital investment, may be misguided for nations concerned with equality. Net of other factors, foreign investment dependence benefits the elite segments of the income-earning population over the poorer eighty percent.

## APPENDIX

Country	Top Quintile Income Share (1980)	year	Top Quintile Income Share (1995)	year	Change in Top Quintile Income Share (1980–1995)	TNC Penetration (1980)
Australia	44.200	1981	46.400	1990	.05	.087
Banglades	45.320	1981	37.900	1992	-.16	.004
Belgium	36.100	1979	35.030	1992	-.03	
Brazil	61.600	1980	65.180	1989	.06	.069
Bulgaria	32.930	1980	39.247	1992	.19	
Canada	37.930	1981	34.840	1991	-.08	.204
Chile	51.400	1968	63.000	1989	.23	.032
China	36.660	1980	41.650	1992	.14	
Colombia	58.760	1978	54.350	1991	-.08	.032
Costa Rica	51.400	1981	50.700	1989	-.01	.139
Cote d'Ivoire	47.430	1985	44.080	1988	-.07	.052
Czechoslovakia	32.100	1980	35.570	1992	.11	
Denmark	37.210	1981	37.830	1992	.02	.063
Dominican Republic	47.800	1984	55.700	1989	.17	.036
Egypt	43.200	1974	41.090	1991	-.05	.096
El Salvador	53.200	1977	54.400	1995	.02	.043
Ethiopia	41.300	1982	47.700	1995	.15	.027
Finland	40.000	1980	33.800	1991	-.16	.011
France	41.820	1979	40.100	1989	-.04	.034
Germany	37.420	1981	37.100	1989	-.01	.045
Greece	40.170	1981	41.180	1988	.03	.113
Guatemala	53.900	1979	63.000	1989	.17	.089
Honduras	59.500	1986	56.330	1992	-.05	.036
Hong Kong	46.500	1980	49.370	1991	.06	.063
Hungary	32.240	1982	38.680	1991	.20	
India	40.900	1977	41.100	1992	.00	.007
Indonesia	42.270	1980	41.950	1990	-.01	.142
Israel	39.600	1979	42.500	1992	.07	.033
Italy	39.050	1980	37.430	1991	-.04	.020
Jamaica	50.300	1975	45.120	1992	-.10	.187
Japan	39.570	1980	38.200	1990	-.03	.003
Jordan	51.000	1980	47.690	1991	-.06	.040
Kenya	60.900	1982	61.857	1992	.02	.048
South Korea	45.400	1980	42.240	1988	-.07	.018
Malaysia	55.800	1979	53.730	1989	-.04	.248

Country	Top Quintile Income Share (1980)	year	Top Quintile Income Share (1995)	year	Change in Top Quintile Income Share (1980–1995)	TNC Penetration (1980)
Mexico	54.500	1977	59.300	1989	.09	.042
Morocco	46.150	1984	46.300	1991	.00	.010
Nepal	59.200	1977	44.817	1995	-.24	.001
Netherlands	35.670	1981	36.360	1991	.02	.113
New Zealand	40.570	1980	44.730	1990	.10	.105
Nigeria	44.200	1986	48.290	1992	.09	.026
Norway	41.050	1979	41.550	1991	.01	.116
Pakistan	41.270	1979	39.700	1991	-.04	.024
Panama	52.420	1980	59.800	1989	.14	.108
Peru	58.190	1981	50.397	1994	-.13	.043
Philippines	53.300	1975	52.500	1988	-.02	.038
Poland	34.564	1980	37.660	1992	.09	.001
Portugal	42.500	1980	40.420	1991	-.05	.044
Puerto Rico	52.600	1979	53.200	1989	.01	
Senegal	60.900	1970	58.637	1991	-.04	.051
Sierra Leone	52.500	1968	63.417	1989	.21	.070
Singapore	46.590	1980	46.590	1988	.00	.529
Soviet Union	34.000	1980	36.600	1989	.08	
Spain	35.000	1980	35.280	1989	.01	.024
Sri Lanka	36.820	1980	39.357	1990	.07	.057
Sweden	39.450	1980	38.980	1992	-.01	.029
Taiwan	37.040	1980	38.660	1992	.04	.058
Tanzania	36.600	1976	45.440	1993	.24	.009
Thailand	51.100	1981	58.500	1992	.14	.030
Tunisia	50.000	1980	46.330	1990	-.07	.090
UK	37.660	1980	40.840	1991	.08	.117
USA	41.500	1980	44.100	1991	.06	.031
Venezuela	48.200	1981	58.410	1990	.21	.027
Yugoslavia	40.830	1978	39.035	1990	-.04	.002
Zimbabwe	68.000	1969	62.357	1990	-.08	

## REFERENCES

- Ahluwalia, Montek S. 1993[1974]. "Income Inequality: Some Dimensions of the Problem" in *Development and Underdevelopment: The Political Economy of Inequality* eds. Mitchell A. Seligson and John T. Passe-Smith. Lynne Rienner Publishers: 31–39.
- Ahluwalia, Montek S. 1976. "Inequality, Poverty and Development." *Journal of Development Economics*: 307–342.
- Alderson, Arthur and Francois Nielsen. 1999. "Income Inequality, Development, and Dependence: A Reconsideration." *American Sociological Review*: 64, 4, Aug, 606–631.
- Amin, Samir. 1976. *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism*. Monthly Review Press, New York.
- Baran, P. 1957. *The Political Economy of Growth*. Monthly Review Press, New York.
- Beer, Linda. 2001. "Income Inequality and Transnational Corporate Penetration: A Cross-National Analysis 1975–1995." Unpublished dissertation manuscript.
- Beer, Linda. 1999. "Income Inequality and Transnational Corporate Penetration." *Journal of World-Systems Research*. <http://jwsr.ucr.edu/> 5,1: 1–25.
- Berry, Albert, Francois Bourguignon, and Christian Morrison. 1983. "Changes in the World Distribution of Income Between 1950 and 1977." *The Economic Journal*. 93: 331–350.
- Birdsall, Nancy. 1999. "Globalization and the Developing Countries: The Inequality Risk." Overseas Development Council program on 'The New Global Economy and Developing Countries' <http://www/odc.org/programs/birdsall.html>.
- Bluestone, Barry and Bennett Harrison. 1988. *The Deindustrialization of America*.
- Bornschieer, Volker. 1981. "Dependent Industrialization in the World Economy: Some Comments and Results Concerning a Recent Debate." *Journal of Conflict Resolution* 25 (3): 371–400.
- Bornschieer, Volker and Christopher Chase-Dunn. 1985. *Transnational Corporations and Underdevelopment*. Praeger Publishers.
- Bornschieer, Volker and Ballmer-Cao, Thanh-Huyen. 1979. "Income Inequality: A Cross-National Study of the Relationships Between MNC-Penetration, Dimensions of the Power Structure and Income Distribution." *American Sociological Review* 44: 438–506.
- Bollen, Kenneth A. and Robert W. Jackman. 1985. "Political Democracy and the Size Distribution of Income." *American Sociological Review* 46: 651–659.
- Boswell, Terry and William J. Dixon. 1993. "Marx's Theory of Rebellion: A Cross-National Analysis of Class Exploitation, Economic Development, and Violent Revolt." *American Sociological Review* 58, October: 681–702.
- Boswell, Terry and William J. Dixon. 1990. "Dependency and Rebellion: A Cross-National Analysis." *American Sociological Review* 55:540–549.
- Bowman, Kirk S. 1997. "Should The Kuznets Effect be Relied On to Induce Equalizing Growth? Evidence from Post–1950 Development" *World Development* 25, 1: 127–143.

- Brady, David and Michael Wallace. 2000. "Spacialization, Foreign Direct Investment, and Labor Outcomes in the American States, 1978–1996." *Social Forces* 79, 1: 67–99.
- Braun, Denny. 1991. *The Rich Get Richer: The Rise of Income Inequality in the United States and the World*. Nelson-Hall Inc.
- Breedlove, William L. and J. Michael Armour. 1997. "Dependency, Techno-Economic Heritage, Disarticulation, and Social Development in Less Developed Nations." *Sociological Perspectives*: 40, 4, winter, 661–680.
- Chan, Steve. 1989. "Income Inequality Among LDCs: A Comparative Analysis of Alternative Perspectives." *International Studies Quarterly* 33: 45–65.
- Chase-Dunn, Christopher. 1975. "The Effects of International Economic Dependence on Development and Inequality: A Cross-National Study." *American Sociological Review* 40, 6: 720–738.
- Chen Shaohua and Martin Ravallion. 2000. "How Did the World's Poorest Fare in the 1990s?" World Bank Development Research Group paper.
- Chenery, Hollis B. and Syrquin, Moshe. 1975. *Patterns of Development 1950–1970*. Oxford University Press, London.
- Crenshaw, Edward. 1993. "Polity, Economy and Technoecology: Alternative Explanations for Income Inequality." *Social Forces* 71, 3, March: 807–816.
- Crenshaw, Edward. 1992. "Cross-National Determinants of Income Inequality: A Replication and Extension Using Ecological-Evolutionary Theory." *Social Forces* 71: 339–363.
- Crenshaw, Edward and Ansari Ameen. 1994. "The Distribution of Income Across National Populations: Testing Multiple Paradigms." *Social Science Research* 23, 1, March: 1–22.
- Deininger, Klaus and Lyn Squire. 1997. "Economic Growth and Income Inequality: Reexamining the Links." *Finance and Development*, March.
- Deininger, Klaus and Lyn Squire. 1996. "A New Data Set Measuring Income Inequality." *The World Bank Economic Review* 10, 3 : 565–591.
- DeMartino, George. 1998. "Foreign Direct Investment." *Foreign Policy in Focus* eds. Martha Honey and Tom Barry, May.
- Dixon, William J. and Terry Boswell. 1996. "Dependency, Disarticulation and Denominator Effects: Another Look at Foreign Capital Penetration." *American Journal of Sociology* 102, 2. 543–562.
- Dolan, Michael B. and Brian W. Tomlin. 1980. "First World-Third World Linkages: External Relations and Economic Development." *International Organization* 34, 1: 41–63.
- Dollar, David and Aart Kray. 2000. "Growth Is Good for the Poor." The World Bank Development Research Group. World Bank, March.
- Evans, Peter B. and Michael Timberlake. 1980. "Dependence, Inequality, and the Growth of the Tertiary: A Comparative Analysis of Less Developed Countries." *American Sociological Review* 45, August: 531–552.
- Ferreira, Francisco H. G. and Julie A. Lichfield. 1998. "Calm After the Storms: Income Distribution in Chile, 1987–1994." World Bank Poverty Reduction Group paper.

- Frank, Andre Gunder. 1967. *Capitalism and Development in Latin America*. Monthly Review Press, New York.
- Froot, Kenneth A. ed.. 1993. *Foreign Direct Investment*. The University of Chicago Press, Chicago and London.
- Furtado, Celso. 1970. *Economic Development of Latin America: Historical Background and Contemporary Problems*. Cambridge U. Press, London.
- Galtung, Johan. 1971. "A Structural Theory of Imperialism"; *Journal of Peace Research* 8, 81–117.
- Hoover, Greg A. 1989. "Intranational Inequality: A Cross-National Data Set." *Social Forces* 67, 4, June: 1008–1026.
- International Labour Office. 1996. *Statistics on Poverty and Income Distribution: An ILO Compendium of Data*. International Labour Office, Geneva.
- Kohli, Atul and Michael F. Altfeld, Saideh Lotfian, Russell Mardon. 1984. "Inequality in the Third World: An Assessment of Competing Explanations." *Comparative Political Studies* 17, 3, October: 283–318.
- Korzeniewicz, Roberto Patricio and Timothy Patrick Moran. 1997. "World Economic Trends in the Distribution of Income, 1965–1992." *American Journal of Sociology* 102, 4, January: 1000–1039.
- Kuznets, Simon. 1976. *Modern Economic Growth: Rate, Structure and Spread*. Yale University Press.
- Kuznets, Simon. 1963. "Quantitative Aspects of the Economic Growth of Nations. VIII: The Distribution of Income by Size." *Economic Development and Cultural Change* 11, 1–80.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." *American Economic Review* 45: 1–28.
- Lachler, Ulrich. 1998. "Education and Earnings Inequality in Mexico." World Bank Mexico Country Department paper.
- Lecaillon, J. and F. Paukert, C. Morisson, D. Germidis. 1994. *Income Distribution and Economic Development: An Analytical Survey*. Geneva, Switzerland: International Labor Office.
- Lenski, Gerhard and Patrick Nolan. 1985. "Technoeconomic Heritage, Patterns of Development, and the Advantage of Backwardness." *Social Forces* 64, 2, December: 341–358.
- London, Bruce and Tom Robinson. 1989. "The Effects of International Dependence on Income Inequality and Political Violence." *American Sociological Review* 54, April: 305–308.
- McMichael, Philip. 1996. *Development and Social Change: A Global Perspective*. Pine Forge Press, Thousand Oaks, CA.
- Milanovic, Branko. 1999. "True World Income Distribution, 1988 and 1993." Policy Research Working Paper 2244. World Bank, Washington, D.C.
- Muller, Edward N. 1993[1984]. "Financial Dependence in the Capitalist World Economy and the Distribution of Income Within States." in *Development and Underdevelopment: The Political Economy of Inequality* eds. Mitchell A. Seligson and John T. Passe-Smith. Lynne Rienner Publishers. :. 267–293.

- Muller, Edward N. 1988. "Democracy, Economic Development, and Income Inequality." *American Sociological Review* 54: 868–871.
- Muller, Edward and Seligson, Mitchell. 1987. "Inequality and Insurgency." *American Political Science Review* 81: 425–449.
- Nielsen, Francois. 1994. "Income Inequality and Industrial Development: Dualism Revisited." *American Sociological Review* 59, October: 654–677.
- Nielsen Francois and Arthur Alderson. 1997. "The Kuznets Curve and the Great U-Turn: Income Inequality in U.S. Counties, 1970 to 1990." *American Sociological Review* 62, 1, February: 12–33.
- Nielsen Francois and Arthur Alderson. 1995. "Income Inequality, Development and Dualism: Results from an Unbalanced Cross-National Panel." *American Sociological Review* 60: 674–701.
- O'Hearn, Denis. 1989. "The Irish Case of Dependency: An Exception to the Exceptions?" *American Sociological Review* 54, 4: 578–596.
- Paukert, Felix.. 1973. "Income Distribution at Different Levels of Development: A Survey of the Evidence." *International Labor Review* 108: 97–125.
- Paus, Eva D. and Michael D. Robinson. 1997. "The Implications of Increasing Economic Openness for Real Wages in Developing Countries, 1973–1990." *World Development* 25, 4, 537–547.
- Piore, Michael J. and Charles E. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. Basic Books, Inc. Publishers, New York.
- Prechel, Harland. 1985. "The Effects of Exports, Public Debt and Development on Income Inequality." *International Labor Review* 108: 97–125.
- Ragin, Charles C. And York W. Bradshaw. 1992. "International Economic Dependence and Human Misery, 1938–1980: A Global Perspective." *Sociological Perspectives* 35, 2: 217–247.
- Ram, Rati. 1992. "Intercountry Inequalities in Income and Basic-Needs Indicators: A Recent Perspective." *World Development* 20, 6: 899–905.
- Ranney, David C.. 1998. "Investment Liberalization Agenda." *Foreign Policy in Focus* eds. Martha Honey and Tom Barry, July.
- Rodrick, Dani. 1997. *Has Globalization Gone Too Far?* Institute for International Economics, Washington, D.C.
- Rothgeb, John M. Jr.. 1996. *Foreign Investment and Political Conflict in Developing Countries*. Praeger, London.
- Rubinson, Richard. 1976. "The World Economy and the Distribution of Income Within States." *American Sociological Review* 41: 638–659.
- Simpson, Miles. 1993. "Political Power versus Ecological Evolutionary Forces: What Are the Proximal Sources of Income Distribution?" *Social Forces* 71, 3, March: 797–806.
- Simpson, Miles. 1990. "Political Rights and Income Inequality: A Cross-National Test." *American Sociological Review* 55: 682–693.
- Stack, Steven. 1980. "The Political Economy of Income Inequality: A Comparative Analysis." *Canadian Journal of Political Science* 13: 273–286.
- Stallings, Barbara (ed.). 1995. *Global Change, Regional Response: The New International Context of Development*. Cambridge University Press.

- Stokes, Randall and Anderson, A.. 1990. "Disarticulation and Human Welfare in Less-Developed Countries.." *American Sociological Review* 55: 63–74.
- Sullivan, Gerard. 1983. "Uneven Development and National Income Inequality in Third World Countries: A Cross-National Study of the Effects of External Economic Dependence." *Sociological Perspectives* 26 (2): 201–231.
- Tsai, Pan-Long. 1995. "Foreign Direct Investment and Income Inequality: Further Evidence." *World Development* 23, 3: 469–483.
- UNCTAD. 2000. *United Nations Conference on Trade and Development: Plan of Action*. United Nations, NY.
- Weede, Erich. 1993. "The Impact of Democracy or Repressiveness on the Quality of Life, Income Distribution and Economic Growth Rates." *International Sociology* 8: 177–195.
- Weede Erich and Horst Tiefenbach. 1981. "Some Recent Explanations of Income Inequality: An Evaluation and Critique." *International Studies Quarterly* 25, 2, June: 255–282.
- Weisbrot, Mark and Dean Baker, Rober Naiman, Gila Neta. 2000. "Growth May Be Good for the Poor— But are IMF and World Bank Policies Good for Growth?" The World Bank Development Research Group. World Bank, August.
- Williamson, Jeffrey G. 1991. *Inequality, Poverty, and History*. Basil Blackwell, Cambridge, MA.
- Wodon, Quentin T. 1999. "Growth, Poverty, and Inequality: A Regional Panel for Bangladesh." World Bank Poverty Reduction and Economic Management Sector Unit paper.
- World Data 1995* (cd rom). 1996. World Bank, New York.
- World Development Report 2000/2001: Attacking Poverty*. 2001. World Bank/Oxford University Press, NY.
- World Development Report 1991: The Challenge of Development*. 1991. World Bank/Oxford University Press, NY.
- World Development Indicators* (cd rom). 2000, 1999, 1998, 1997.
- World Investment Report 2000: Cross-Border Mergers and Acquisitions and Development*. 2000. United Nations Conference on Trade and Development. United Nations, NY and Geneva.
- World Investment Report 1997: Transnational Corporations, Market Structure, and Competition Policy*. 1997. United Nations Conference on Trade and Development. United Nations, NY and Geneva.
- World Investment Report 1991: The Triad in Foreign Direct Investment*. 1991. United Nations Conference on Trade and Development. United Nations, NY and Geneva.